It will be readily recognized as a myth of wide dispersion. Perhaps the delicate fur and the grovelling habits of the little animal account for it.

3. Once the mole had eyes like other animals, but no tail. He met a creature which ridiculed him for his poverty in this latter respect. The derision preyed on his mind, and, when he met a being who could help him, he petitioned for aid. He was told that he must give up his eyesight 'So he sold his eyes for his tail.'   W. H. BABCOCK.

Washington, D.C., April 16.

Some hardy buds.

While in the country two weeks ago, my wife cut some branches from a pear and a cherry tree, and also from a lilac-bush, and brought them to the city. At that time the buds looked as they had all winter ; in fact, we thought the pear cutting was dead. In a few days the buds commenced to open, and to-day the cherry-blossoms are out, as they would be on the tree, the blossoms of the pear are just opening, and those of the lilac are beginning to show. The water in which they were placed has been changed daily, and the cuttings kept in the sun as much as possible. It has occurred to us that such cuttings might be placed in rooms where there are invalids, both in homes and in hospitals, and give the sick a taste of the country which they could otherwise not get. It is no less an object of interest and instruction to the well : the daily, and I might say hourly, changes in the buds as they unfold are fascinating to watch, and even those whose lives have been spent in the country have never seen the gradual development of the blossoms as they can thus see them on the severed branches.   J. H. R.
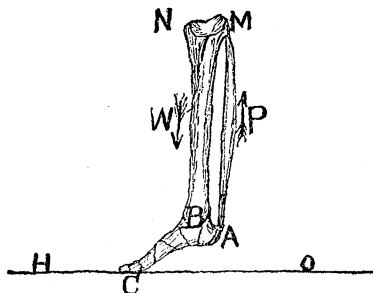
Brooklyn, April 8.

On tiptoe.

While feeling honored that the attention of so eminent a physicist as Professor LeConte should be attracted to the question which has been recently discussed in *Science* under this heading, it still seems to me, as it did when I called the attention of Professor Van Dyck to the matter, that the lever is of the first order,

Professor LeConte quietly assumes that the point *C* (adopting his figure, *Science*, ix. p. 341) is the ful-

crum, but just there is the question. Suppose a person sitting down to put his toe against some object, and, by the same muscular action which raises the body on tiptoe, to push the object away. Here the case is evidently a lever of the first class, the ful-

crum being the ankle-joint (*B*), and the weight the point of the toe's pressure (*C*).

Now suppose, that, in precisely the same way, he presses his toe against some firmer object, as a wall, and, instead of pushing it, pushes *himself* away.

I fail to see how it is other than an unnecessary complication, at least from a physiological standpoint, to suppose the fulcrum and weight to change places, so as to make the lever one of the second class. Further, in cases where the result is partially a movement of the object, and partially of the person's body, — as in rising on tiptoe upon a yielding object, — the complication of the solution upon the hypothesis that the lever is of the second class is further increased ; whereas in every case, since the foot still turns upon the ankle-joint *B*, by regarding it as a fulcrum and the lever as of the first class, the conclusion reached by Professor LeConte, that $P : W :: CB : AB$, becomes an evident application of the general law of mechanics.   EDWIN J. POND.

Austin, Tex., April 12.

Winds in Denver.

H. A. Howe, in *Science*, No. 216, asks " why winds blow at Denver from the north during the day, and from the south at night."

It is for these reasons : Denver is in a cañon running north (the mountains on the west, a slight elevation on the east, and a ' divide ' on the south), through which flows Cherry Creek. Now, winds *invariably* blow up cañons during the day, and down them at night. This brings the question to, " Why do winds blow up cañons during the day, and down at night ? " which I take to be the intended interrogatory. During the day, the sun heats the air, which, becoming light, rushes up the cañons, while at night the air becomes cool and seeks lower altitudes. Of course, the disturbed equilibrium increases the wind's velocity. I think I have crudely answered the question.   F. F. WYMAN.

Silver Reef, Utah, April 7.

Geographical centre of the United States.

If an area or district of country is mapped on a projection of small areal distortion, the geographical centre of the area may be defined to be the centre of gravity of the figure.

The problem to determine the centre, would, under this definition, resolve itself into the question of determining the centre of gravity of a plane figure of irregular outline. Of the various ways in which the centre of such an area may be found, the mechanical ones are perhaps of easiest application, and, on the whole, yield the most satisfactory results.

One method consists in tracing the outline of the area whose centre is to be determined, on stiff cardboard, then cutting out the figure along the boundary so traced, and balancing the resulting cardboard on a point ; which point so found is the point sought.

Another way consists in cutting out the map, as before, along the boundary-line, and then suspending it behind a plumb-line, so that map and plumb-line hang from the same support : the projection of the plumb-line on the map is a line which passes through the centre of gravity of the area. By suspending the map successively from several differ-

ent points, a series of lines will be found, all of which theoretically pass through the centre of gravity of the figure.

Both of these methods have been tried on the map of the United States, and with the following result: —

A base map of the United States (scale about 112 miles to the inch) was cut out along the boundary, and the map so cut out suspended by a pin stuck through it. From the same pin a plumb-line was suspended. The map was swung upon the pin, and allowed to come to rest several times, and its mean position inferred. A line was then drawn on the map, representing the projection of the plumb-line upon the map in its mean position.

This process was repeated in several positions of the map, and a series of intersections determined,

Northernmost latitude (Minnesota)....................49° 24′
Southernmost   "   (Florida). ....24° 23′

    Mean latitude...............................36° 54′

Northernmost latitude (Alaska).......................71° 22′
Southernmost   "   (Florida).......................24° 23′

    Mean latitude...............................47° 53′

each intersection representing the centre of gravity, resulting from a pair of observations.

The centre sought was then assumed from an inspection of these points. From this adopted centre a circle with a radius of about one-sixteenth of an inch (some seven or eight miles in nature) would include all points except two resulting from very acute intersection, and which were rejected.

Again, a similar map was mounted on stiff cardboard, and then cut out along the boundary, as before. This was then balanced on the point of a spindle. It was balanced with the face of the map down, and then with the face up; and both balancings agreed in locating a point not differing visibly from the point determined by the preceding method.

This point, which according to one definition is the centre of the United States (Alaska excluded), is situated in latitude 39°.8 north, and longitude 98°.8 west of Greenwich. Platting this position on the land-office map, the point is found to be in *Cora township, Smith county, Kan.*, some ten miles south of the southern boundary of Nebraska, and a little to the westward of the middle of the state of Kansas.

These methods are directly applicable only to cases where the desired point is included in the given area. Such is the case with the United States, excluding Alaska.

If, now, we are to determine the centre, *including Alaska*, it will be necessary to determine the geographical centre of Alaska, and then determine, on the line joining these two centres regarded as a lever arm, the fulcrum between weights proportional to the areas of the United States alone, and of Alaska alone.

The centre of Alaska was found by the suspension method only. The intersections were all closely accordant, and locate the centre on the head waters of the Kuskokwim River in latitude 63°.4 north, and longitude 151°.5 west. The map used for the purpose was the base map of Alaska and adjacent regions, prepared some years ago by the coast survey.

These two centres found, as above described, were noted on a base map of North America, and

joined by the projection of an arc of a great circle. This line was then divided into parts inversely proportional to the respective areas of the United States alone, and of Alaska alone; and the point so found is adopted as the centre sought. For this purpose the area of the United States was taken as 3,026,000, and of Alaska, 583,000 square miles. The centre is found to be in latitude 45°.0 north, and longitude 103°.5 west from Greenwich; which locates it near Slave Butte, Dakota, some twenty-five miles east from the boundary monument between Dakota, Montana, and Wyoming.

If we assume that the geographical centre is determined by the intersection of a parallel and meridian, which are the means of the extreme latitudes and longitudes, then we shall have for the United States, *excluding* Alaska, —

Easternmost longitude (Maine)........................66° 57′
Westernmost   "   (Washington Territory)......124° 47′

    Mean longitude...............................95° 52′

and, *including* Alaska, —

Easternmost longitude (Maine).......................66° 57′
Westernmost   "   (Alaska).....................187° 32′

    Mean longitude...............................127° 14′

In the first case (excluding Alaska) the centre lies in the Indian Territory, some seven miles from the southern boundary of Kansas, and about twenty-five miles a little west of south of Independence, Montgomery county, Kan.

In the second case (including Alaska) the centre is found to be in the Pacific Ocean, about one hundred and twenty-five miles a little south of west from Cape Flattery. This rather startling result brings into conspicuous notice the extension of the Alaskan possessions to the westward.

The only reference to the geographical centre of the United States that has met our notice is contained in the ' Fourth biennial report of the state board of agriculture to the legislature of the state of Kansas,' where it is stated, on p. 493, that " *Kansas is the central state of the Union, the exact geographical centre of the United States being at a point lying within a few miles of the centre of the state.*"

                             MARCUS BAKER.
Washington, D.C., April 15.

Death of Dr. Albert Kellogg.

Among the recent deaths of scientific men, that of Dr. Albert Kellogg, the veteran botanist of the Pacific coast, is made known in the San Francisco papers.

He died in Alameda, Cal., on the 31st of March, at the age of seventy-four years. He was a native of New Hartford, Conn. For over thirty years Dr. Kellogg has been identified with the botany of California and the adjacent region, commencing Sept. 4, 1854, when he exhibited a drawing and specimen of a plant from the " salt marshes of the Bay of San Francisco, the Frankenia grandifolia," at a meeting of the California academy of sciences, of which he was one of the founders. During all these years he was constantly active, either in the field or the herbarium. He was exceedingly skilful with his pencil and brush in rendering from nature, and up to nearly the last moment was engaged in making drawings of the floral and sylvan species of the Pacific